

SNOWMASS2013

DPF Long-Term Planning for US High-Energy Physics

Updated Charge to Conveners, August 2012

The American Physical Society's Division of Particles and Fields is initiating a long-term planning exercise for the high-energy physics community. Its goal is to develop the community's long-term physics aspirations. Its narrative will communicate the opportunities for discovery in high-energy physics to the broader scientific community and to the government.

The long-term planning exercise is anchored by two meetings:

- **A Community Planning Meeting (CPM2012)**, at Fermilab, October 11-13, 2012,
- **A Community Summer Study (CSS2013)**, at the University of Minnesota, July 29-August 10, 2013.

Prominent members of the community have kindly agreed to serve as conveners representing the:

- **Energy Frontier:** Raymond Brock (Michigan State U, brock@pa.msu.edu), Michael Peskin (SLAC, mpeskin@slac.stanford.edu)
- **Intensity Frontier:** JoAnne Hewett (SLAC, hewett@slac.stanford.edu), Harry Weerts (ANL, weerts@anl.gov)
- **Cosmic Frontier:** Jonathan Feng (UC Irvine, jlf@feng.ps.uci.edu), Steve Ritz (UC Santa Cruz, ritz@scipp.ucsc.edu)
- **Instrumentation:** Marcel Demarteau (ANL, demarteau@anl.gov), Ron Lipton (FNAL, lipton@fnal.gov), and Howard Nicholson (Mt. Holyoke, hnichols@metholyoke.edu)
- **Frontier Facilities:** William Barletta (MIT, barletta@mit.edu), Murdock Gilchriese (LBNL, mggilchriese@lbl.gov)
- **Computing Frontier** Lothar Bauerdick (FNAL, bauerdick@fnal.gov), and Steven Gottlieb (Indiana, sg@indiana.edu)
- **Education & Outreach** Marge Bardeen (FNAL, mbardeen@fnal.gov), Dan Cronin-Hennessy (UMn, hennessy@physics.umn.edu)

Chris Quigg (FNAL, quigg@fnal.gov) has agreed to serve as special advisor.

Subgroups have been formed to address the physics in each of these areas, and identify regions of common interest. Following the model of the Intensity Frontier Workshop, three conveners have, in general, been assigned to each subgroup: a theorist, an experimentalist, and an “observer”. The subgroup structure should be in place by the end of August 2012.

At this time, suggestions (subgroup topics, sub-conveners names, interactions between frontiers, ...) and participation from the high-energy physics community, and from members of our sister APS divisions, DAP, DPB, and DNP, are essential for success.

- At **CPM2012**, the groups will present the scientific issues to be emphasized, experiments to be discussed, and strategies for implementation both in national and global terms. The meeting will include opportunities for contributed presentations and discussions.

- After **CPM2012**, subgroup conveners will formulate specific charges for their areas. These charges will clarify the physics questions to be discussed and the experiments to be given most attention. They will also detail choices made in treating areas-overlapping subgroups or linking high energy physics to other areas. In principle, these charges could evolve over the year in response to continued research, new physics results, and new proposals.

During the winter and following spring, each subgroup will hold meetings to develop and refine its ideas. We encourage groups interested in specific proposals or scientific topics to assemble white papers on their subjects. Models of previous studies are the Snowmass2001 “group activities overview” statements at <http://snowmass2001.org/WG/WG.html>, and the community inputs assembled for the 2006 European Strategy for Particle Physics which can be found at <http://council-strategygroup.web.cern.ch/council-strategygroup/BB2.html>

- **CSS2013** will provide an opportunity for discussion, analysis, and arrive at conclusions for each area of the study. By the end of this meeting, each pair of conveners will have prepared an executive summary for their area, and overlap areas if necessary. Each subgroup will produce a report answering its charge and summarizing the discussion of its area throughout the process. The ensuing electronic record, which may also contain contributed papers, will be an important resource for the community.

We anticipate that this long-term planning process will trigger an independent process of review and prioritization solicited by the funding agencies.

For the Division of Particles and Fields of the American Physical Society:

Pierre Ramond, Chair
Jon Rosner, Chair-Elect
Ian Shipsey, Vice Chair
Patty McBride, Past Chair